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(71) Applicant: NEC CORP

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(54) AVALANCHE PHOTODIODE BIAS CIRCUIT

(57) Abstract:

PROBLEM TO BE SOLVED: To provide an avalanche photodiode bias circuit, having improved power efficiency and fast response time.

SOLUTION: A DC-DC converter 3 provides an output voltage obtained by actuating a feed back circuit, composed of a differential amplifier 2 and a feedback element 4 to amplify an input voltage applied to a control element 1. This feedback structure stabilizes the gain of the converter 3, i.e., the instability of the step-up degree into a gain, determined by the feed back ratio of its loop. An amplifier 5 amplifies the output of the differential amplifier 2 and sends the output to a voltage adder 6, which adds the output of the amplifier 5 to that of the converter 3 and applies the result to an avalanche photodiode 8 from an output terminal 7.

